OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 2 SECTION B
FOUNDATION TIER

1968/2314B

| Wednesday | **15 JUNE 2005** | Morning | 1 hour |

Candidates answer on the question paper.
Additional materials:
    Electronic calculator
    Geometrical instruments
    Tracing paper (optional)

Candidate Name		Centre Number	Candidate Number

TIME   1 hour

INSTRUCTIONS TO CANDIDATES

* Write your name, Centre number and candidate number in the boxes above.
* Answer **all** the questions.
* Write your answers, in blue or black ink, in the spaces provided on the question paper.
* Read each question carefully and make sure you know what you have to do before starting your answer.
* Show all your working. Marks may be given for working which shows that you know how to solve the problem, even if you get the answer wrong.

INFORMATION FOR CANDIDATES

* The number of marks is given in brackets [ ] at the end of each question or part question.
* Unless otherwise instructed in the question, take π to be 3.142 or use the π button on your calculator.
* The total number of marks for this section is 50.
* Section B starts with question 12.

FOR EXAMINER'S USE	
Section B	

This question paper consists of 12 printed pages.

Formula Sheet: Foundation Tier

Area of trapezium $= \frac{1}{2}(a+b)h$
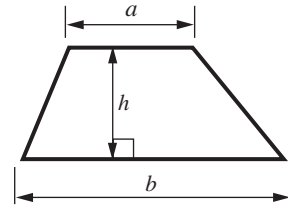
12 **(a)** Write the following in figures.

    (i) 30 million

                             (a)(i) ....[1]

    (ii) twenty thousand and sixty-five

                             (ii) ....[1]

(b) Write 6328

    (i) correct to the nearest 100,

                             (b)(i) ....[1]

    (ii) correct to the nearest 10.

                             (ii) ....[1]

(c) Write down all the factors of 18.

                     (c) ....[2]

          [Turn over

13 **(a)** Tony buys 5 tins of dog food at 47p each.

How much does he spend?

(a) £.................................[1]

(b) George buys a bag of cat litter for £1.38
and a bag of dog food for £2.59.
He pays with a £5 note.

How much change should he get?
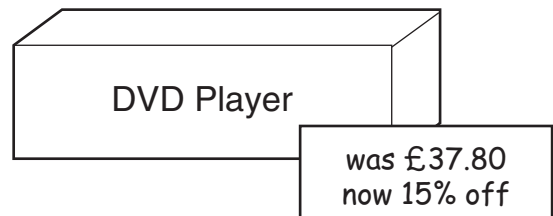
(b) £ ....[2]

(c) Tim wants to buy some packets of cereal.
They cost £1.49 each.
Tim has £5 to spend.

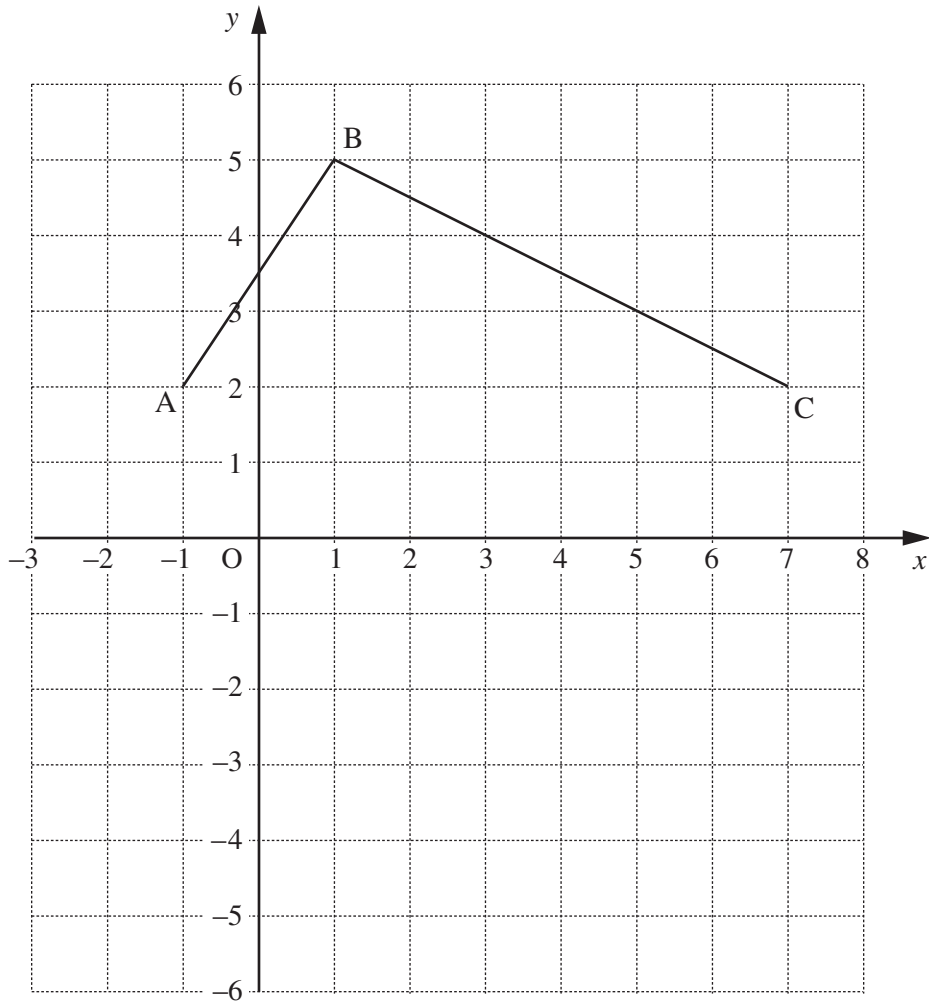What is the largest number of these packets that he can buy?

(c) ....[2]

(d) Ann bought this DVD player in the sale.

Work out 15% of £37.80.

DVD Player

was £37.80
now 15% off

(d) £ ....[2]

14

A, B and C are 3 vertices of a kite.

(a) Find the midpoint of line AC. Label it M.   [1]
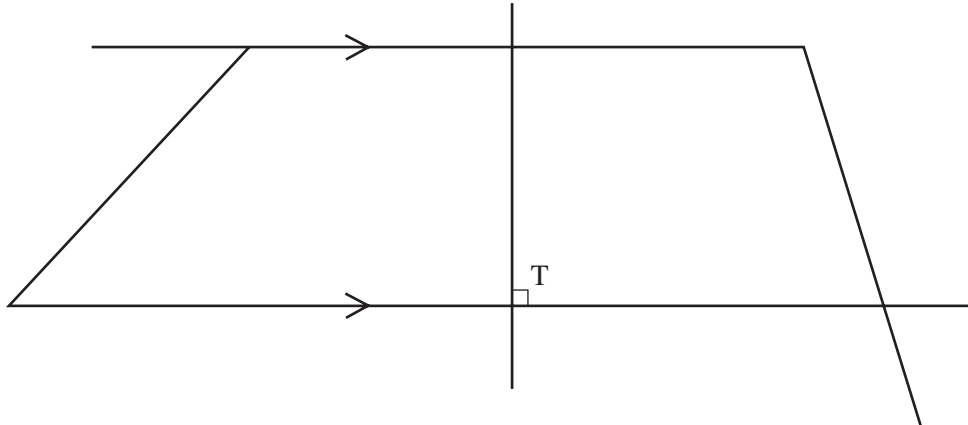
(b) Write down the coordinates of M.

(b) (............... , ...) [1]

(c) Plot the fourth vertex of the kite. Label it D.   [1]

(d) Write down the coordinates of D.

(d) (............... , ...) [1]
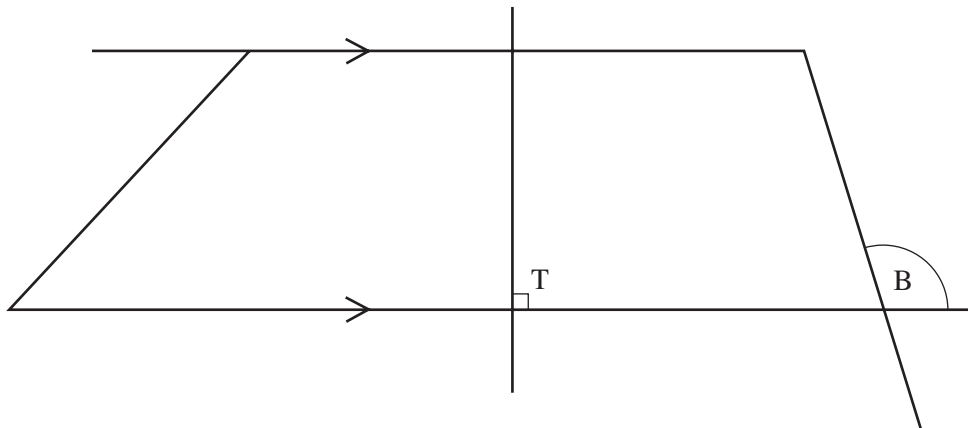
[Turn over

15 On the diagram a right angle is labelled T.
The lines marked with arrows are parallel.

(a) On this diagram, mark and label

    (i) an acute angle A, [1]

    (ii) an obtuse angle O, [1]

    (iii) a reflex angle R. [1]

(b) Here is another copy of the diagram.
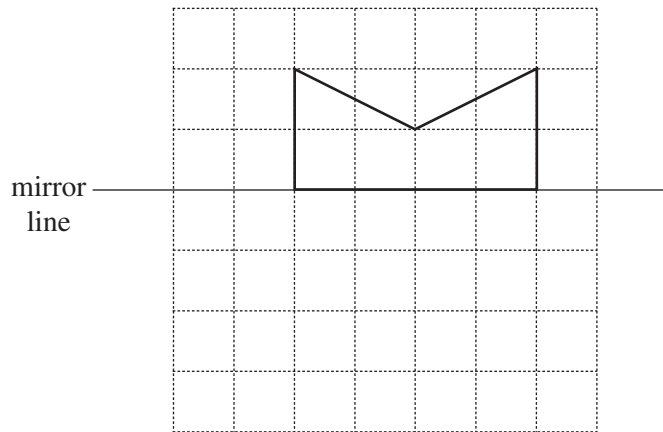Angle B is marked.

On this diagram, mark and label

    (i) an angle V which is vertically opposite to B, [1]

    (ii) an angle P which is alternate to B. [1]

16 **(a)** Reflect the shape in the mirror line. [2]

(b) Triangle A is reflected onto triangle B.
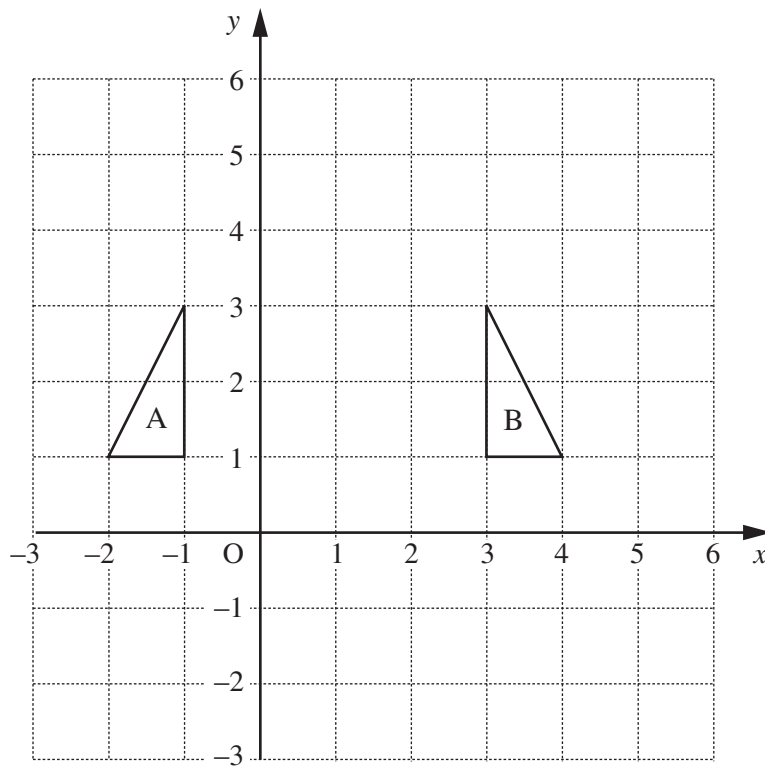
   (i) Draw in the mirror line. [1]

  (ii) What is the equation of the mirror line?

(b)(ii) ....[1]

 (iii) Translate triangle B 1 left and 3 down. Label the image C. [1]

[Turn over

17 **(a)** Simplify.

$$y \times y \times y \times y$$

(a) ....[1]

(b) Solve.

$$3x = 7.5$$

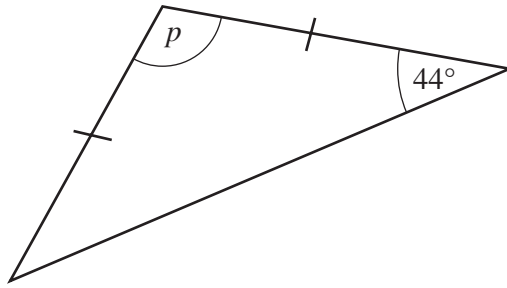**(b)** ....[1]

18
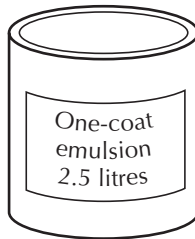
Eileen is painting her hall which has $82\,\text{m}^2$ of wall.
Each tin contains 2.5 litres of paint.
One litre of this paint covers $14\,\text{m}^2$ of wall.

How many tins of paint does she need?
Show how you decide.

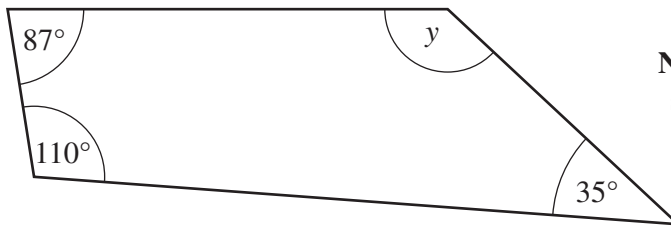..[3]

19 **(a)** Work out angle *p* in this isosceles triangle.
Give your reasons.

Not to scale

p = ...° because ....

....[3]

(b) Work out angle *y*.
Give your reason.

Not to scale

y = ...° because ....

....[2]

　　　　　　　　　　　　　　　　　[Turn over

20 The scale drawing shows Arwick (A) and Borton (B).

N

Scale: 2 cm to 1 km

A •

• B
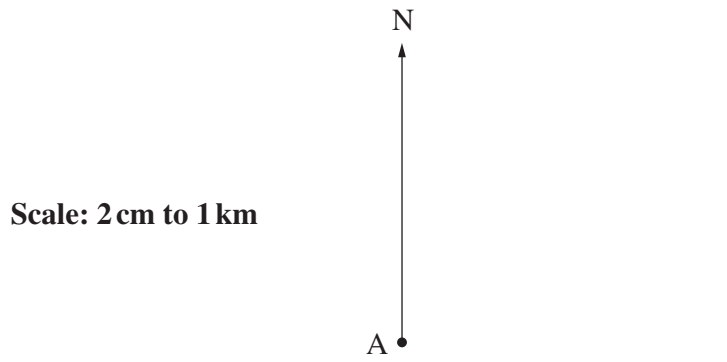
(a) Find the bearing and actual distance of Borton from Arwick.

(a) Bearing ....° [1]

Distance .... km [1]

(b) Calney is 4.3 km from Arwick on a bearing of 205°.

Find and mark the position of Calney (C). [2]

21 A bag contains pens.
These are red, blue, green and black.
A pen is chosen at random.
The table shows the probabilities of choosing some of the colours.

Colour	Probability
Red	0.25
Blue	0.45
Green	0.1
Black	

(a) Calculate the probability of choosing a black pen.

(a) ....[2]

There are 20 pens in the bag.

(b) How many blue pens are there?

(b) ....[2]

TURN OVER FOR QUESTION 22

[Turn over

22   Mrs Dent wants her garden to be improved.
      The cost of the design for the garden is £700.
      The materials and plants cost £1200.
      The cost of labour is £90 per day.

(a)   Write a formula for the total cost, £C, of her garden when n days labour are needed.

(a) ....[2]

(b)   The total cost is £2395.

       Write an equation and solve it to find how many days labour were needed.

(b) ....[3]